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OCT 1 1921

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR WEEK ENDING OCTOBER 1, 1921.

AKRON:

The weather remains dry with fall sown wheat making no progress. Wheat sown on the fallow field of the sheep rotations emerged to full stand September 29, just one month after date of planting. That sown on the green manure rye field is up to perhaps 75 per cent of a stand. Conditions are almost ideal for ripening up the corn, and it is now felt that it will be possible to get practically all the experimental corn in within the next three weeks. Red amber sorghum, sown for feed was harvested the last of the week. It will be possible to secure considerable seed from this strip, as it was fully 90 per cent mature. Kafir and milo are practically mature; this is rare as only occasionally do these crops mature seed here. Fencing around the sheep rotations was completed, the sheep rotation pasture gates given a second coat of paint, and other odd station jobs completed.

Maximum temperature 91, minimum 35; precipitation 0.

ARDMORE:

The week has been characterized by excessively high winds for this season of the year. Much difficulty has been experienced in conducting farm work on account of these winds.

There has been no precipitation since September 19, and the total precipitation for the month of September was .46 inch, compared with a normal for the same month of 1.38 inches. Total precipitation from January 1 to September 30 was 9.99 inches, as compared with a normal for the same month amounting to 15.57 inches.

Seeding of winter wheat and winter rye has been completed, but it is not expected that any of these crops will germinate until we have some rains.

Mr. Sam Sloan, county agricultural agent, conducted a chicken culling demonstration at the station on September 30. A good sized audience was present including the Agricultural Class of the Ardmore High School. Mr. M. F. Seidell, land appraiser for the United States Farm Loan Board visited the station with Mr. Sloan.

Stock beets are now being harvested at the station this week. The yield will probably be about three tons per acre, which is about one-half the normal yield for this station.

The superintendent of the station has visited the potato sections of Box Butte county, Nebraska, and Converse county, Wyoming, during the past two weeks, and the potato crop in these sections is very good.

In Converse county a great many of the farmers have gone into the production of certified potatoes for seed, and their returns have been very profitable on dry land. The soil is a sand loam.

In Box Butte county, Nebraska, it was estimated that the sale of potatoes there would amount to about $3,000,000. These returns from potatoes leave this particular western county in a very good financial condition, although there are many large stockmen in this county who have suffered heavy losses.

Maximum temperature 91; minimum 26.

BIG SPRING:

The first northern wind for this fall hit this section about noon Thursday. That night the minimum temperature dropped to 49 which is the lowest recorded since spring. A shower of .58 inch fell early Sunday morning of the 25th. South of the town a few miles the precipitation was much heavier. Plats B and E in the c.c. winter wheat series was plowed the latter part of the week. Plats F and G in the same series were listed. The delay in preparing these plats was due to a very dry soil. The variety plats of sweet sorghums were

Big Spring, continued:

hauled in and weighed,- the yields ranging from 3,130 pounds to 6,600 pounds of forage per acre. The varieties of cotton were picked over for the first time, the yields averaging as follows:

Triumph ----	470	lbs.	seed	cotton	per acre
Lone Star --	440	"	"	"	" "
Durango ----	545	"	"	"	" "
Acala ------	605	"	"	"	" "
Columbia. ---	310	"	"	"	" "

Maximum temperature 95; minimum 45; wind velocity 4.0 miles per hour; evaporation 1.96 inches; precipitation .58 inch.

DALHART:

The past two weeks have been rather cool with no precipitation. The week just past was both cool and windy, with three very disagreeable days. On the night of the 29th the temperature dropped to 35 degrees. Several farmers in this section reported a light frost, but states there was no damage to crops other than killing the leaves in places.

Harvesting has been the chief work the past two weeks. The Dry-Land rotations are all harvested except a few plats of kafir that failed to mature with the rest. This kafir with the last date of sumac and four varieties of sorghum in the Forage plats will complete the experimental plat work. All cowpeas, both hay and grain have been hauled in. The hay was stacked and the plats to be threshed were piled in separate cocks for threshing. The dwarf milo in the alternate preparation for Cereal and Forage plantings is ready to harvest. This will be headed during the coming week, or at least started.

The Trans-Canadian Fair was held in Dalhart on the 29th, 30th, and October 1. There was a very good display of exhibits shown this year, but not as good as was expected. On account of the cold wave that came up on the first day of the fair several large exhibits were not brought in. These were to have come quite a distance, one from Boise City, Oklahoma, and the communities failed to show up. There was a much better exhibit of live stock of various kinds shown here this year than last. Extra pens had to be built to accomodate the supply.

EDGELEY:

Very high winds prevailed throughout the week. The high winds interfered somewhat with threshing. All threshing on the farm was completed yesterday. Highest temperature for the week 82, minimum 31.

GARDEN CITY:

There has been some very unusual changes in the weather here during the past week; during one twenty-four hour period the temperature dropped from 99 degrees to 46, a drop of 53 degrees.

Harvest on the station is just about completed; there is only one small field of sumac left standing, and that is to be used in refilling the silo. Very good growing weather has prevailed during the past week, and as a result the wheat on all the plats is up to a good stand.

Maximum temperature 99; minimum 35; precipitation 0.

SYDNEY:

The past week saw the end of the fall plowing on the Dry-Land fields. The ground is very dry and broke up rough and lumpy on every plat. Winter wheat and rye have not yet emerged on any of the plats and probably will not do so until we have precipitation enough to wet up the seed bed. On fallow there is sufficient moisture to carry the young wheat into the winter in good shape after it has germinated, but it will take a good rain to penetrate the dry seed bed and connect it up with the stored moisture. Many farmers are holding up their fall seeding until after a rain.

High winds have been a daily occurrence this past week, and much soil blowing has taken place on smooth cultivated fallow land and on land well cultivated and seeded to winter wheat.

A conference of county agents from south central Montana was held at the station under the leadership of M. L. Wilson and J. C. Taylor of the State Experiment station.

Maximum temperature 86; minimum 30; precipitation 0.

LAWTON:

A rain of 1.43 inches September 25 and 26 made it possible to prepare all wheat plats, while the September 1 and September 15 date plats have germinated. Threshed grain was cleaned when it was too wet to thresh. Threshing, however, is progressing.

The mean temperature of 79.6 degrees for September is 6.1 degrees above the mean for this month. A change occurred the night of the 29th, when the thermometer went to 44 degrees, about 20 degrees colder than any temperature registered here in months. The Panhandle northern which resulted in a snow storm at Amarillo, barely hit Lawton.

Maximum temperature 96; precipitation 1.43 inches.

MANDAN:

Agronomy.

Most of the week has been spent in finishing the corn husking and in weighing the corn and the stover. Corn in the rotations will yield about 15 bushels per acre, which is higher than in 1920.

The month of September has been cool and cloudy, with frequent high winds. A high wind early in the week blew down many of the corn shocks.

The total precipitation for September was 1.58 inches or .45 inch below the 45-year mean. The total for the year to October 1 is 12.73 inches, or 4.44 inches below the 45-year mean.

The first frost of the season came on the night of September 30, with a minimum of 31.

Cooperative Grazing Experiment.

The month of September was rather cool and the cattle made practically no gains. The cattle of the various pastures made the following total gains for September. There are 10 head on each pasture, except the Rotation, which is carrying 17 head. The 30 acre bunch were moved to the Reserve pasture the middle of the month. The 50 acre bunch are still on their pasture, but are short of feed:

Pasture (acres)	100	70	50	30	Rot.(70)
Gains	-190	100	-220	660*	80

Arboriculture.

Notes have been taken on all experimental block, species testing blocks, and windbreaks.

Plums for fall planting of shelterbelt stock has been cleaned, and

Mandan, continued:
Russian olive seed is being picked.

Horticulture.

All vegetables from the acre-garden have been harvested. The yields ranged from fair to very good; cabbages, tomatoes, and carrots, doing especially well. There was no absolute failure with anything, inspite of the extremely dry season. This speaks well for the rotation system with horse cultivation, as the gardens on most farms in the vicinity were failures. Seed of tomato and muskmelon selections have been cleaned, and composts for greenhouse work have been made.

The ground were groomed and the arbor near the tennis court repaired and vines pruned. Geraniums are still blooming as profusely as ever, but Cannas and some other plants show the effect of cold weather.

All fruits have now been harvested. As in previous years, plums proved to be the most desirable of the tree fruits. Beginning with Opata in the latter part of July and ending with Emerald in the middle of September there was a continual succession of varieties yielding good crops. The varieties that did especially well this year, in the order of ripening, are Opata, Oziya, Cree, Sapa, Compass Cherry, Red Wing (Minn.#12), free stone Wolf, Terry, Wyant, and Emerald. Hanska might also be mentioned, as in flavor it was superior to any other variety grown at the station, but it is lacking in hardiness.

Other work during the week included cleaning and stratifying plum seed, pruning raspberries, currants, and gooseberries, and gathering seed of the Sheep-berry (Vibernum Lentago). A considerable number of these plats were found growing in the coulees North of Mandan.

SHERIDAN:

Sudan grass left for seed and some of the cane which matured seed was threshed the first of the week. All of the crops have now been handled and hauled in from the field. The corn varieties were husked the week of the 24th. Some good corn was secured from all varieties.

The weather has continued dry and quite warm the most of the time, although there have been a few cold windy days. None of the grain seeded this fall has emerged so far. A trip was made by auth to the Huntley station last week. Very little seeding of fall grain was noticeable anywhere in the farming districts along the road.

Maximum temperature 90; minimum 20; precipitation, Trace.

WOODWARD:

The first part of the week was rather warm and the latter part cool, with a minimum temperature of 40 degrees on the morning of September 30, on the station, and a light frost was reported from town. The elevation of the station is considerably above that of the city.

Wheat and rye which was planted on the D.L.A. plats September 23, and 24, is up with a good stand on early fall plowing. It is coming up with a scattered stand on disced row crops and late fall plowing, and not at all on plats that were allowed to grow up to weeds since harvest and double disced at planting time.

Some harvesting has been done on the Cereal Project during the week, part of the broomcorn baled, and some wheat and rye planted for pasture. The station peach orchard was treated with Para-dichlorobenzene to control borers.

Mr. Geo. C. Husman of the Office of Horticultural and Pomological Investigations was a visitor at this station on Tuesday, and Mr. B. E. Rothbeg of the Bureau of Markets the last three days of the week.

Maximum temperature 97; minimum 40; average hourly wind velocity 7.9 miles; evaporation 1.956 inches; precipitation .01 inch.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

OCT 8 1921

REPORT FOR WEEK ENDING OCTOBER 8, 1921.
(Except as otherwise indicated.)

AKRON:

The weather continues dry and unfavorable for wheat. Several farmers are now reseeding, claiming that their wheat sprouted and then died. Wheat on the rotation plats seeded about a month ago has never emerged except on the fallow plats and there not to a perfect stand. Heavy frosts the first part of the week stopped all growth and the milo and kafir plats on the rotations and the forage sorghum belt was harvested. Plats B of the C.C.Milo and kafir were fall plowed and plats C were listed. Husking corn was started on the rotations. Other work consisted of odd jobs about the station.

Maximum temperature 87; minimum 29; precipitation 0.

ARCHER: report October 1:

There has been no change in the weather conditions, except on September 29 when the first frost was recorded.

Threshing in the community is in progress and fair yields are being secured. The farmers are shipping most of their crop immediately, receiving in the neighborhood of 61 to 62 cents per bushel at the shipping points. Great discouragement prevails amongst them.

Threshing at the station is in progress. The dry-land plats were finished Thursday. All corn was cut Tuesday and the spring cereal plats will be threshed during the coming week.

Maximum temperature 83; minimum 29; precipitation 0.

BIG SPRING:

A light frost occurred on the morning of October 8, as a result of the drop in temperature to 30 degrees. The last two dates of milo, kafir, and sorghum was harvested the latter part of the week. Kafir in the rotation and c.c. series was threshed this week and the following yields secured on the c.c. series:

Plat	A	--- 17.0	bushels	per acre
"	B	---20.7	"	" "
"	D	--- 26.3	"	" "
"	E	--- 21.3	"	" "
"	F	--- 10.5	"	" "
"	G	--- 13.8	"	" "

Cotton continues to open and the second picking will be made on the experimental plats the coming week.

Maximum temperature 94; minimum 34; wind velocity 4.3 miles per hour; precipitation 0.

DALHART:

This country remains dry, with no prospects of rain. Many farmers who had contemplated planting wheat in this section - more acreage than ever had before been planted - have done nothing for the past two months because of the dryness of the soil. Several farmers have stated that they intend to plant wheat is sufficient rain falls between now and January. Practically every farmer planting wheat will treat it for smut.

Dalhart, continued:

To date there has been nothing in the way of a hard frost. The minimum temperature of 35 which occurred the latter part of September was sufficient to stop the growth of field crops, although at first it was thought that no damage had been done. Everything has been harvested on the station that will be bound. Some of the forage sorghums failed to thoroughly mature seed, but some were selected for seed. These sorghums had to be harvested on account of the light frost which stopped their growth and caused the leaves to fall and the stalks to lodge. No wheat or rye has been planted on the station on account of the soil being too dry. As soon as a rain occurs in sufficient quantities to insure germination and growth this will be done. The soil is now too dry to plow or disc to any advantage.

EDGELEY:

The past week has been cold and windy. The first killing frost occurred on the 3rd when the thermometer registered 27 degrees. One more day will see the completion of fall plowing on the main field and on section nine. The soil has been in excellent shape for plowing this fall.

Maximum temperature 79; minimum 24.

GARDEN CITY:

The weather this week has continued warm and dry; some of the nights have been rather cool, but there have been no freezes as yet.

All row crops on the station have been harvested, and the fourth cutting of alfalfa put up this week. Milo and kafir are drying out rapidly now, and will soon be ready to thresh. Although all the sorghums matured this year, the dry weather of August and the first part of September reduced their yields considerably.

Mr. Wagner left this week for a trip to New Mexico; he and his family are making the trip by automobile.

Maximum temperature 94; minimum 35; precipitation 0.

HAYS, report of October 1:

Generally the weather has been cool, clear, and very dry.

Winter wheat and rye were seeded on the plats Tuesday and Wednesday.

During the last ten days 150 pounds of bran mash has been spread on around the project to prevent grasshopper damage to the newly seeded winter wheat.

A light frost, the first of the season, was recorded September 30.

Wheat seeded early in this locality germinated unevenly and is suffering some from grasshoppers, and very much from drought. Some worm damage is also reported about ten miles north of Hays.

The new superintendent, Mr. L. C. Aicher, arrived Monday, and is now getting acquainted with his duties as superintendent of the Fort Hays Experiment station.

Maximum temperature 101; minimum 34; precipitation 0.

HAYS:

The weather continues very dry with no prospects of rain in sight.

The stand of winter wheat is very poor and uneven, due to the dry condition of the soil at the surface and to the dept of seeding, even on fallowed ground. At the time of seeding it was hoped that none of the wheat would

Hays, continued:

germinate before a rain, and it was thought that the wheat was shwon shallow enough so that all the seed lay in dry soil, but evidently some of it found sufficient moisture to start germination.

Although the weather has been very unfavorable for the starting of a new wheat crop, it has been very favorable for the curing of seed crops, including all sown and rowed crops. Threshing of kafir was commenced on the Dry Land Project Thursday. All the plats and part of the kafir on the border was threshed. The milo will be threshed the first of next week.

Superintendent Aicher left Friday night to spend a few days in Manhattan for a conference with college officials.

Maximum temperature 92; minimum 33; precipitation 0.

JUDITH BASIN:

The past week has been comparatively warm and favorable to growth of fall grains. Winter wheat is up with excellent stand on the various plats and increase fields. A good stand of rye has also been secured on the rotations. Grasshoppers are commencing to do considerable damage to winter wheat plats, but poison mash has been distributed to control the pests.

The week has been devoted to plowing of plats and increase fields, weighing corn fodder, and digging potatoes. All field work at this station is now practically completed.

A party of about 75 boys comprising the high school agricultural classes from Harlowtown, Judith Gap, and Moccasin spent Tuesday at the station inspecting the various experiments, and studying the results which have been obtained. The party was in charge of high school instructors, Mr. R. E. McConnell, W. Lippert, H. F. DeVore, and County Agent A. D. Anderson.

Mr. J. M. Stephens was a visitor during the week.

Maximum temperature 83; minimum 22; precipitation, Trace.

LAWTON:

Ideal weather conditions the past week permitted the completion of sorghum threshing with the exception of the M.C. sumac and about a dozen plats of late dates. All cotton plats were picked for the second and last time; yields will be much lower than last season, doubtless about one-third of a bale per acre.

Fall work is far advanced, as crops matured early and there has been practically no lost of time this autumn because of rainy or inclement weather. Sufficient moisture was received two weeks ago to germinate early seeded wheat and most of these fields are now in excellent condition. Much wheat is being seeded at the present time. Cotton picking is at least two weeks earlier than usual; many fields have been picked for the las time, while practically all have been picked at least once. Cotton is going to market in excellent condition, although the staple is poor.

The first frost of the fall occurred last evening, when a minimum of 31 degrees was recorded. A north wind, averaging from 18 to 26 miles per hour, blew yesterday, and when it went down about dusk it was apparent that a freeze might earily occur if the sky cleared.

Maximum temperature 91; minimum 31; average wind velocity 5.4 miles; evaporation 1.330 inches.

MANDAN:

Agronomy.

Weighing and hauling of corn from Rotations and Varieties was finished early this week. Considering the extreme dryness of the season, yields are

Mandan, continued:

very good. Corn on fallow in the M.C. series yielded at the rate of 35 bushels to the acre. The average of all plats will run between 15 and 20 bushels per acre. Spring plowing shows up better than fall plowing. In the Corn variety test, station selections of Northwestern Dent and Paynes White Dent were among the highest yielders. Dakota White Flint, which yielded highest in the test last year ranked next.

Cooperative Grazing Experiment.

Blocks of sod have been taken up from the different pastures and placed in flats. A plan of the Grazing Experiment will be shown in miniature at the International Stock Show at Chicago in November, by the North Dakota station.

Arboriculture.

The picking of Russian Olive seed has been finished. Plum, Chokecherry Tartarian Maple, Boxelder, Green Ash, and Russian Olive seed are being planted.

Preparations are being made for digging, fumigating, and heeling in of the trees.

Maximum temperature 84; minimum 25; precipitation .08.

WOODWARD:

This has been a week of rather high wind movement, with the average velocity 14 miles per hour, or higher on three days of the week. Rain has threatened a few times, but we have received only a trace on three different dates.

The C.C. sumac and the second crop of Sudan grass on the D.L.A. project have been harvested. Some seed broomcorn and the broomcorn fodder on the Cereal Project have been harvested. A few patches have been planted to Kanred wheat, and a few acres of wheat planted for pasture for the dairy stock. Some fencing was started the latter part of the week.

The samples taken on the C.C. winter rye at planting time show that the B plat contains a little over twice as much moisture in the first six feet as the A plat.

Maximum temperature 95; minimum 40, average hourly wind velocity 9.0; precipitation, Trace.

WEEKLY STATION REPORTS

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U. S. DEPARTMENT OF AGRICULTURE

OCT 15 1921

REPORT FOR WEEK ENDING OCTOBER 15, 1921.
(Except as otherwise indicated.)

[illegible]RON:

The husking of corn on the rotation plats was continued at odd times. The first few days of the week were spent in putting a concrete curb about the which supplies the hydro-pneumatic system.

The millet varieties and sorghum varieties were hauled in and those which had matured grain were threshed. Freed's sorgo gave a very promising grain yield, as well as furnishing an average amount of forage. Other work accomplished was the taking of smut and stand notes on the variety corn plats.

Maximum temperature 82; minimum 26; precipitation 0.

ARCHER, report October 8th:

Over a period of 50 years September of 1921 ranks fourth in dryness for its season of the year. The total precipitation for September of this year was .08 inch. There has been but a trace of precipitation from September 4 to the present date. The precipitation from August 1 to date is .84 inch. This condition has been very detrimental to the growth of winter wheat and fall tillage.

Threshing in this region is nearing completion and corn gathering is under way, An unusually large crop of corn is to be harvested this year. The dry, warm season caused the crop to mature very well.

Threshing at the station is practically complete and the work of husking corn from the plats is in progress.

Maximum temperature 81; minimum 21; precipitation 0.

ARCHER:

The dry weather continues, with warm days and cool nights. These conditions have been very favorable for the gathering of potatoes. However, the ground is so dry that digging is very difficult. The early varieties produced a fair crop of good tubers, but the late varieties are a failure. Active interest is being taken in the production of certified seed potatoes for the irrigated regions in this and neighboring states. During the past week all tubers at the station were dug.

Maximum temperature 80; minimum 26; precipitation 0.

BIG SPRING:

A light shower of .23 inch fell on the night of the 14th. This is the first precipitation to be recorded this month. The soil is still too dry to plow at the present time, consequently no winter wheat has been planted in this section to date. The second picking of the cotton plats was done this week, and the yields secured are considerably lower than they were from the first picking.

Maximum temperature 94; minimum 43; wind velocity 4.4 miles per hour; precipitation .23 inch.

DALHART:

This week has been dry as usual, with no signs of rain. Several days were quite windy and the days and nights cool. No frost has occurred as yet, according to the thermometers in the instrument shelter. However, crop growth has been stopped since September 29.

Dalhart, continued:

There still remains considerable harvesting to be done among the farmers and they are working full forces. Some are binding, while some are heading only. The past week some of the farmers have planted wheat. However, the majority are holding off until it rains sufficiently to give wheat a good start.

Station work varied considerably, consisting of fixing fences, binding some odds and ends, and shocking them. Feed was ground for the work stock during the week. Some of the selected seed was threshed and cleaned; this consisted mostly of selected seed oats. The peanuts were harvested during the week, and a fair yield will be obtained. From the dryness of the season, it is quite likely that threshing can be commenced in the near future.

GARDEN CITY:

The weather this week has continued dry and windy. As a result the ground has become very dry. The wheat which was planted on September 22 came up to a very good stand, but it is making practically no growth now, because of the lack of moisture. There has been no frost at the station up to date, although there has been a light one in the valley. No damage was done, however, and all crops in this vicinity which did not dry up matured in good shape.

Corn was husked this week and the yields ranged from 4.6 bushels per acre on the M.C.B. plat to 33 bushels on the M.C.D., or fallow plat.

Maximum temperature 94; minimum 33; precipitation 0.

HAYS:

The weather continues dry - very dry - and moderately warm.

The present outlook for winter wheat is very poor. The stand, if any, is very spotted and poor.

Threshing of milo was finished on the project Tuesday. Threshing of kafir on the border around the project was finished Thursday.

Threshing of sudan grass and sorghums on the Forage Project and fields of the station is in progress.

Maximum temperature 86; minimum 31.

HUNTLEY:

Bright and warm fall weather has prevailed during the past week, and farmers have been making the most of it in getting out their root crops, corn, etc. The potato varieties on the dry land plats were dug during the week and some very good yields were obtained, considering the unfavorable season.

Corn husking on the rotations was completed and the grain and fodder weights were taken. Both grain and fodder crops were short this year; many of the plats making no corn at all.

Winter wheat is still ungerminated and will remain so until we have precipitation enough to wet the seed bed.

Maximum temperature 84; minimum 23; precipitation 0.

LAWTON:

During the past week cotton stalks on all rotations, as well as on the variety and rate and date plats were mowed, and hauled in order that a better job of plowing might be done this winter and next spring. All kafir, sorghum,

Lawton, continued:

and feterita plats in rotations were mowed or cut with the bean harvester in an attempt to destroy the chinch bug hibernating spots.

The rotation, variety, and October 15 date test wheat plats were seeded the 14th. Surface soil is dry and germination may not take place until a rain. Early wheat is up to a good stand, but only .03 inch of rainfall has been received since September 25, when 1.43 inches was recorded.

All late dates of grain and forage sorghums were cut during the week. These will yield very low in both grain and stover, as the chinch bugs and birds damaged these to a great extent. About 20 plats remain to be threshed.

Kafir in rotations - 47 plats - averaged 23.7 bushels per acre, while 13 plats of corn averaged 22.7 bushels.

Maximum temperature 91; minimum 37; precipitation .03 inch; average wind velocity 6 miles per hour.

MANDAN:

Horticulture.

Potatoes were dug on October 3 and 4. Fair yields were obtained, but the quality was not up to the usual standard, there being many small and knobby tubers. This is particularly true of early varieties, early Ohio being the most knobby of all. Green Montain gave the highest yield, but was not quite mature at the time of harvesting. The best four varieties in the variety test with their average acre-yields follow:

Green Mountain	163.0 bushels
Early Ohio	162.1 "
King	161.1 "
Rural New Yorker	143.1 "

In general, results from the distance of planting test, show greater yields from the 14 inch and 20 inch spacing than from the 28 inch spacing. Planting hills 20 inches apart in the row seems to be the most desirable method this year, as the tubers were larger than if the hills were spaced only 14 inches apart.

Two methods of storing potatoes and vegetables in outside pits are being tested this year. On one method a shallow pit is used, the potatoes are heaped up in a cone shaped pile, and are then covered with alternate layers of straw and soil. In the second method, a pit is dug about five feet deep, filled about half way with potatoes and vegetables, and then protected by straw, boards and dirt. Special provision is made for ventilation in the case of the deep pit.

Other work included manuring and plowing the "Acre-Garden", washing and stratifying plum seed, pruning grapes, and placing posts for a grape trellis. Fall note taking has been completed.

Arboriculture.

An additional covering of mulch was hauled on experimental blocks No. F-10-2. This should keep down the growth of weeds.

Digging of shelterbelt stock began Wednesday, and will be completed today. Conifer stock for shipping next spring is being dug and heeled in for the winter. This is the first time this has been done, and it is hoped will eliminate the large loss druing the winter due to continued drying out.

SHERIDAN:

The weather for the most of the time during the last two weeks has been quite warm, although there have been a few cold windy days. The drought still continues unbroken.

The principal work on the station has consisted in finishing up shaling and gravelling the drive from the station entrance to the barn and in doing some fencing around one piece of ground on the drive out to the main road, which it is planned to put into an extension of the shelterbelt next year, and also east of the barn to provide a larger run-way for the stock and to protect the shelterbelt and fruit trees set out this year from the stock during the winter.

Maximum temperature 84; minimum 23; precipitation 0.

TUCUMCARI:

The weather conditions remain dry here. There has been very little wind all week, and the weather has been quite favorable to crop growth. There still remains some harvesting to be done. Some of the crops are not likely to mature, as it would require at least two weeks for some of them to do so.

The second date of sumac is not yet harvested and will not mature. The third date of milo and kaoliang will be harvested the first of the week. The remainder of the crops in the third date never did any good from the start, so there will be no harvesting done on these. There still remains to be cut three of the forage sorghums, honey, afr. millet, and Coleman's sorgo. Most of the grain sorghums have been threshed during the week. These were harvested soon enough to be cured this early, others will be threshed as they are ready. Cowpeas were threshed for seed this week, too.

Considerable work was done on the well during the week in the way of installing pipe and getting the pump jack installed for pumping. The pumping was continued over two days and the pipe pulled. Saturday one joint of 4½ inch perforated casing was put in and the other casing raised to admit the water. The formation the water is in now looks good for a permanent supply, and every effort is being made to make a well out of it at 245 feet.

Mr. Kent, president of the New Mexico College of Agriculture was a station visitor this week. Mr. Lantow of the A.H.Dept. will be here Sunday and Monday in the interest of cattle feeding. They are considering feeding a car of cattle this year.

WOODWARD:

Since September 9 we have had .14 inch of precipitation in three showers, and since October 1 have had only a trace. Wheat sowing has been practically at a standstill for some time. Wheat that is on early fall plowing or ground that has been otherwise kept clean is doing fairly well. But wheat that is on late plowing, disced row crop land, or land that has been weedy, is either coming up with a poor stand, or not coming up at all.

We have not yet had a freezing temperature at the station, but there has been a heavy frost along the river.

Work during the week has consisted of, fencing, starting the silo, overhauling the scales and putting in a new platform, and a concrete frame, and building a cold frame. One plat of Mexican beans and one plat of peanuts have been harvested.

Maximum temperature 94; minimum 25; average hourly wind velocity 8.4 miles; precipitation 0.

NOTE:-- Beginning with the Weekly Station Report for the Week ending October 29, 1921, the Report will be discontinued for the calendar year 1921.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

OCT 23 1921

REPORT FOR WEEK ENDING OCTOBER 22, 1921.

ARDMORE:

The month of October has been excellent from the standpoint of climatic conditions: that is, to say the weather has been nice and balmy with no excessively high or low temperatures. However, there has been no precipitation of any consequence. As a result of this dry weather winter wheat and winter rye, which were seeded in September have not as yet emerged.

There is very little water available either for domestic use or for stock and many farmers are compelled to haul water sometimes a distance of several miles. This station depends for its water supply upon Hat Creek and the supply has been ample up to the present time, although the creek is so low that the water is very unsatisfactory for domestic use. It appears to contain a very large percentage of alkali. A great many of the artificial dams throughout the country are entirely dry.

All the beef and dairy cattle on the station were dipped for scabies or mange on the 17th. There is not any evidence that the disease is present among the cattle on the station, but the State Live Stock Sanitary Board issued an order compelling the dipping of practically all the cattle in Fall River County, particularly including the section where the station is located. A cage vat was installed near the dairy barn and was found to be a very satisfactory method of dipping the heavy dairy cattle which we have here. A concrete hole for the vat was made 3 feet wide, 8 feet deep, and 9 feet long. The cage and hoisting apparatus was purchased in the open market at a cost of $120. We consider this method of dipping much more satisfactory for handling heavy cattle than the usual plunge vat. It is quite possible to dip 250 head in a cage vat in eight hours. The cattle will be dipped again at the end of 14 days. Nicotine dip is specified by the Sanitary Board.

The superintendent of the station supervised the field testing of all dipping vats in this section. The field test consists of a simple chemical test to determine the percentage of nicotine contained in the vat solution.

Recent visitors at the station were Dr. E. R. Phelps, Chief of the State Live Stock Sanitary Board and Dr. Coombs, a member of the Board.

Maximum temperature 86; minimum 19;.

GARDEN CITY:

The weather this week has continued warm and dry with no signs of any moisture in sight. The ground is so dry that wheat is making little or no growth. Our first frost occurred on the night of the 19th, but it was not severe enough to even kill tomato vines.

Threshing of milo was started this week, and the yields are considerably lower than those of last year. The average for all methods will be about half that of last year. The hot dry spell which occurred just at the time the sorghums were heading, greatly reduced their yields.

Maximum temperature 88; minimum 31; precipitation 0.

LAWTON:

Continued fair weather has favored cotton picking and wheat seeding the past week, but wheat which is up is badly in need of moisture. Precipitation for the year to date is about six inches below the mean for this period and only 2.64 inches has been received the past three months. Station wheat seeded a week ago is up to a partial stand; whether the rest will appear before a rain comes is problematical.

Lawton, continued:

The stubble in Field C, including the grain sorghum and forage sorghum plats as well as the alternately rowed kafir, was mowed early in the week, and the entire field is now being disced. Plowing will be done in the winter.

Threshing was completed Thursday. The last soil moisture sampling for the season was done this week.

Plat A No.249 was plowed, harrowed, and seeded to rye for a green manure crop this day.

Maximum temperature 88; minimum 40; precipitation 0.

MANDAN:

Cooperative Grazing Experiment.

The grazing experiment closed for the season at the end of 150 days. The cattle of the different pastures made the following gains in pounds per pasture for the season. There were ten head of steers in each pasture, except the Rotation which carried seventeen head. The 30 acre bunch were taken from their pasture at the end of 115 days. The 50 acre bunch finished the season on their pasture but lost weight during October.

Pasture	100	70	50	30	Rot.(70)
Gains	3025	3175	2275	1690	4500

The cattle will be shipped to the North Dakota Agricultural College, where they will be used in Feeding Experiments.

A high wind prevailed all day on the 21st. It averaged 25 miles per hour from morning until evening.

Arboriculture.

The conifer stock for shipping next spring was dug and heeled in. The amount available will be as follows:

Canadian White Spruce	375
Black Hills Spruce	4817
Jack Pine	9300
Lodgepole Pine	2236

Pulling of the deciduous stock was begun Monday and has continued all week. Fumigation and heeling in was begun Wednesday and up to date the following amounts have been put down:

Caragana	38,750
Buffalo Berry	7,800
Russian Olive	15,240
Green Ash	39,425

There still remains Chokeberry, Box elder, Tartarian maple, and Poplar to pull, fumigate, and heel in, besides a load of Ash.

Maximum 76; minimum 26; precipitation, Trace.

SHERIDAN:

The warm weather continued throughout the first five days of the week, but the last couple of days have been quite cool with heavy winds. The fencing contemplated for this fall has been completed, and the last round of soil samples was taken during the week. Some of the Russian thistles seem to be loosening up now, and if the fair weather continues, it may be possible to

Sheridan, continued:

clear the plats of them this fall instead of waiting until spring as has been the case before.

Maximum temperature 85; minimum 53; precipitation .04 inch.

WOODWARD:

Another week has passed without a drop of precipitation; the top soil is very dry. However, the wheat that has been planted has gotten a good start and is doing very well.

Work during the week has consisted mostly of heading a field of dwarf milo, and hauling sand to be used in the construction of the dairy buildings.

Mr. Sieglinger left this morning (Saturday) for Stillwater, Oklahoma, to visit the experiment station at the College.

Maximum temperature 87; minimum 39; average hourly wind velocity 7.3 miles; precipitation 0.

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OCT 1 1921

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

OCT 20 1921

REPORT FOR WEEK ENDING OCTOBER 29, 1921.
(Except as otherwise indicated.)

AKRON; report October 22:

The husking of rotation corn was finished, and the corn and fodder hauled in and weighed. In addition all corn varieties and all selections were husked and notes taken. Mr. E. J. Maynard drove down from Fort Collins in a truck to take the lamb crop back with him for feeding at the college. The lambs weighed in for an average of a little more than 60 pounds. Ewes were given their last weighing for the season. The lightest grain yield of corn was 1.1 bushels on Rotation 31, while the heaviest yield of corn was 14.9 bushels on the fallow plat of the MC series.

Maximum temperature 86, minimum 29; precipitation 0.

AKRON:

The long continued drought was for a time broken by a rainfall of .97 inches the first part of the week. Snow fell part of the time but soon melted. The storm was accompanied by unusually high winds. All stored grains were sorted and gone over and put away for the winter.

Mr. F. A. Coffman, Cereal Office representative, left the last of the week for Manhattan to pursue scientific studies. Station odd jobs received attention.

Maximum temperature 82; minimum 29; precipitation .97 inch.

ARCHER; report October 22:

The drought continues, there being no precipitation since September 4. The dry weather has been accompanied by unusually high temperatures. There has been considerable wind during the past week.

Nearly all farm work is nearly completed. There remains but a small amount of corn and potatoes to gather in this region. It has been so dry that fall plowing and seeding is practically nill. The fall plowing of plats at the station is nearly complete. The dryness of the soil made it very difficult to accomplish this. The greater part of the winter wheat seeded after August 15, either died or has not emerged.

Maximum temperature 80; minimum 27; precipitation 0.

ARCHER:

The week has been windy and cool. On October 25 the maximum temperature was 38 degrees. On the 25th and 26th a squall occurred with a precipitation of .21 inch. Most of this came in the form of a wet snow. The wind has been so severe that it has prevented the hauling of the corn and fodder from the Dry-Land plats. On October 28 the average hourly wind velocity was 32.5 miles per hour. It has subsided to some extent today.

The winter wheat is in a very poor condition. Only that seeded on fallow made any germination and emerged. Most of that which came up is dead. All fall plowing is done. Some of it broke up in very big clods.

Maximum temperature 71; minimum 26; precipitation .21 inch.

ARDMORE:

The month of October continued dry, with the exception of a rainfall on the 25th and 26th, amounting to .66 inch; up to the present time this has been the rainfall recorded for this month. For the ten months' period, from January to October 29 the total precipitation is 10.65 inches, which is 6.18 inches less than the normal for the same months since the station was established. The small amount of rain on the 25th and 26th gave very little relief from the long continued dry weather. Water did not run in any of the creeks or draws and consequently none of the artificial dams were filled. Rain is badly needed to supply stock water through a large section of this country.

Beef and dairy cattle were dipped on the station for the second time today. The cage vat mentioned in previous report continues to give entire satisfaction. It was found to be quite possible to put the cattle through this vat at the rate of one every 2.5 minutes, retaining each animal in the dip a full two minutes.

Work on the farm during the past week has consisted of hauling hay, repair fences, cleaning grain, and similar work.

Visitors at the station were Mr. Sam Sloan, County Agricultural Agent, and Prof. Dexter, County Agricultural Leader for the State of South Dakota. These men were here holding a Farm Bureau Meeting at which the Superintendent of the station made a short talk.

Maximum temperature 81; minimum 23.

BELLE FOURCHE:

All fall work on the dry land rotations is now completed. Yields of both corn and potatoes are very low.

Shipments of stock from this territory are heavy. Except where there is a carry-over of feed from last year, there is very little of feed on the range. Very few of the ranchers are able to buy feed, therefore much of the stock that should be held over will undoubtedly be shipped.

The total rainfall for the year to date is 10.21 inches. The October rainfall amounts to only .02 inch

Conditions for fall work have been excellent. In the past two months there has hardly been a day too disagreeable for field work.

Maximum temperature 83; minimum 26; precipitation .02 inch.

EDGELEY:

All the field work has been completed at this station. The corn has been hauled from the plats and weighed. The past week has been very windy most of the time. A very high wind blew all day on the 21st.

Farmers are well along with their fall work. With two more weeks of good weather, most of the fall plowing will be completed. The ground is beginning to get dry and hard for plowing.

Maximum temperature 73; minimum 30; precipitation .03 inch.

HUNTLEY:

A shower, totalling .21 inch fell during the week, but it is doubtfull is sufficient moisture penetrated the seed bed to germinate winter wheat and rye. Soil samples taken during the week show the upper six inches of all plats to be dry. Below this depth fallow ground is moist as far as the third foot. Corn and small-grain land is dry to a depth of four feet. Moisture conditions now check very closely with those during July and August.

Huntley, continued:

Considerably cooler weather has prevailed during the week, but the season appears to be considerably above the normal as to temperature. Maximum temperature 68; minimum 18; precipitation .21 inch.

MANDAN:

Agronomy.

Rain fell on four days during the past week. There was 1.27 inches of rain which all went into the ground. The total precipitation for October is 1.39 inches or .41 inch above the 45-year mean. The total amount for the year to date is 14.12 inches or 1.90 below the 45-year mean.

Cooperative Grazing Experiment.

The cattle used in the Grazing Experiment during the past season were shipped to the North Dakota Agricultural College on October 25. There will be used in feeding experiments at the college.

Arboriculture.

Hauling-in, fumigating, and heeling-in Shelterbelt tree stock has been done this week, except for a few days or rain. This also delayed the work a day after the rain was over.

Horticulture.

Rains during the past week have moistened the soil to a good depth, and this will probably be beneficial to trees and shrubs. It is too late to start new growth, but may prevent an excess drying out during the winter.

Fall work is well under way now. Trees and shrubs have been dug and heeled-in for the winter. Seed planting for the fall is finished; plum seed being for the most part planted in rows 1½ feet apart instead of in the regular seed beds. The plum seedlings seem to make a better growth when planted in this way, and are easier handled. We now have a good supply of plum and sandcherry seedlings, which will serve as stock for varieties we wish to send out to farmers.

Other work during the week included gathering and painting stakes, repairing and cleaning the root cellar and greenhouse, covering raspberries, and hauling mulch for the hardiness experiment, tender trees, and seed beds. Fall plowing has also been in progress and is now nearly completed.

Maximum temperature 65; minimum 27; precipitation 1.27 inches.